

# Disaster Response Planning and Preparation

*By Stefanie Condie*

In 1993, a fire broke out in a metro car in Yerevan, Armenia, injuring dozens of commuters and stalling the city's public transportation system. Fortunately, because Yerevan had a metro disaster plan, rescue workers responded quickly to evacuate victims and provide appropriate medical care.

During a unique teleconference session and a disaster planning workshop at AIHA's annual NIS conference, EMS specialists discussed Yerevan's response and other strategies for developing disaster response plans and raising the level of preparedness at the community and national levels. The teleconference utilized a technology for transmitting audio and video signals between remote sites, allowing interaction between conference participants in St. Petersburg and disaster medicine specialists in Boston, MA.

Ed Racht, MD, medical director of Austin/Travis County EMS in Austin, TX, opened the teleconference from St. Petersburg and introduced the panelists in Boston, who addressed general principles of disaster planning, prehospital disaster response, and the role of the trauma center.

Richard Aghababian, MD, chair of emergency medicine at University of Massachusetts Medical Center, defined a disaster as "an event or series of events that overwhelms the emergency response system in a community and results in human suffering and economic losses." Some disasters can be handled with help from nearby communities, while others require assistance from throughout the state or republic. In severe cases, the community needs help from surrounding states or republics.

Aghababian explained that one of the most common mistakes during disasters is the assignment of unfamiliar roles to emergency personnel. Lawrence Mottley, MD, executive director of Boston Emergency Medical Services, noted that often non-EMS medical personnel are not useful at the scene of a disaster and can injure themselves by trying to help.

The goal of rescue workers, Aghababian said, is to do the greatest good for the greatest number of people. "The victims who need you the most are not the first ones you encounter when you arrive at the scene," he emphasized.

One of the most important phases of pre-hospital disaster response is triage--the process of prioritizing patients to make best use of available clinical, logistical, and human resources. In the US, rescue workers classify injuries as red (severe), yellow (moderate), or green (mild). Mottley said that at most disaster scenes, too many patients are placed in the red category, resulting in inefficient allocation of resources.

Erwin F. Hirsch, MD, director of trauma surgery at Boston University Medical Center, said that in preparing for disasters, hospitals must take into account clinical resources (emergency department, bed capacity, critical care capabilities, clinical staff, and ancillary services); logistical considerations (communication, security, patient registration, and family and press facilities); and planning and training (staff assignments, supplies, and human resources management).

During the disaster planning workshop, Alexander Poladko, MD, chief of emergency medicine for the Ukraine Ministry of Health, stressed the need for NIS health care leaders to re-evaluate their national disaster plans, which were developed under the Soviet system, and adapt them to current conditions in their countries. Racht encouraged participants to test disaster plans through practical emergency drills. Jim Alexander, MD, of Coney Island Hospital in Brooklyn,

NY, addressed the roles of emergency personnel at disaster sites, and explained that in the US, one incident manager oversees the entire rescue effort.

The workshop also included a discussion of actual disaster situations in the US and the NIS. Sarkis Abrahamian, MD, chief of the Emergency Ambulance Service in Yerevan, Armenia and Anooshavan Virabian, MD, chief of Yerevan's Ambulance Substation #5, described Yerevan's metro disaster plan. Jerry Overton, executive director of the Richmond Ambulance Authority in Richmond, VA, analyzed the rescue effort following the collapse of a hotel walkway in Kansas City, MO, emphasizing mistakes that could have been avoided through better planning. Alexander Partin, MD, director of the Vladivostok EMS Training Center, recounted lessons learned in the aftermath of the recent Sakhalin Islands earthquake.

**Phases of a disaster:**

1. notification
2. establishment of scene command structure
3. search and rescue
4. triage and stabilization
5. transport of patients
6. definitive care in hospital
7. withdrawal from disaster scene
8. return to normal community operations
9. debriefing